


# Safety Barrier Technical Conditions for Use

## HighwayGuard Safety Barrier - Temporary

	<b>Issue Date:</b> 16 December 2019	<b>Supplier:</b> Ingal Civil Products
	<p><b>These conditions take precedence over any instructions in the Product Manual.</b></p> <p>This document is a summary of the Austroads Safety Barrier Assessment Panel's assessment of the technical performance of the product against AS/NZS 3845 Parts 1 or 2 only. It does not consider procurement practices by individual Road Agencies.</p> <p>The Austroads Safety Assessment Panel may at any time, withdraw or modify this Technical Conditions for Use without notice.</p> <p>These acceptance conditions should be read in conjunction with the Product Manual and Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers.</p> <p>Acceptance of this product does not place any obligation on the Northern Territory Government or its contractors, to purchase or use the product.</p>	

Status	<b>Accepted – may be used on the classified road network</b>
Product accepted	HighwayGuard Safety Barrier  <u>Variants</u> Nil  Variants that are NOT listed above are NOT recommended for acceptance.
Accepted speed	100 km/h
Product manual reviewed	Revision 1.0 – 12/19
Product manual	<a href="https://www.ingalcivil.com.au/products/temporary-barriers/highwayguard#Manual">https://www.ingalcivil.com.au/products/temporary-barriers/highwayguard#Manual</a>

### Design Requirements

Containment Level	Point of Redirection (m)		Tested Article Length (m)	Anchor/Post Spacing (m)	Dynamic Deflection (m)	Working Width (m)	Notes
	Leading	Trailing					
MASH TL3	Interface between the barrier and the end		120	58	1.93	2.47	
MASH TL4	30	30	120	58	2.16	3.51	

### Approved Connections

<b>Crash Cushions or Terminals must be fitted to both ends of a barrier</b>	
<b>Public Domain Products</b>	
W-Beam Guardrail	Not Permitted
Thrie-Beam Guardrail	Not Permitted
Concrete	Not Permitted

<b>Proprietary Products</b>	
QUADGUARD CZ Steel Rail Crash Cushion	<ul style="list-style-type: none"> <li>• Refer to QUADGUARD CZ Crash Cushion Technical Conditions for Use.</li> <li>• The HighwayGuard to Quadguard Crash Cushion transition must be used to connect the terminal to the barrier.</li> <li>• May only be installed where reverse impacts are highly improbable and a risk assessment has been completed and steps undertaken to mitigate any risks identified.</li> <li>• Not permitted as a terminal on a flare.</li> </ul>
UNIVERSAL TAU-II Crash Cushion	<ul style="list-style-type: none"> <li>• Refer to UNIVERSAL TAU-II Crash Cushion Technical Conditions for Use.</li> <li>• The HighwayGuard to Universal TAU-II transition must be used to connect the terminal to the barrier.</li> <li>• May only be installed where reverse impacts are highly improbable and a risk assessment has been completed and steps undertaken to mitigate any risks identified.</li> <li>• Not permitted as a terminal on a flare.</li> </ul>

**Design Guidance**

<b>This product must be installed and maintained in accordance with the Product Manual and Road Agency specifications. Road Agency specifications and standards shall have precedence.</b>	
Minimum installation length	120 metres between crash cushions/terminals (tested article)
System width (m)	0.54 metres
Minimum distance to excavation	Recorded dynamic deflection
Slope limit	Side slope limit: 12.5 Horizontal to 1 Vertical (8%)
Systems conditions	<ol style="list-style-type: none"> <li>1. Installation without an end treatment listed above is NOT permitted.</li> <li>2. Installation on top of a kerb is not recommended</li> <li>3. Flaring across the clear zone without a terminal listed above is NOT permitted.</li> </ol>
Gore area use	Permitted
Pedestrian area use	Permitted – consider potential for snagging and deflection
Cycleway use	Permitted – consider potential for snagging and deflection
Frequent impact likely	Permitted
Remote location	Permitted
Median use	Permitted

<b>Foundation Pavement Conditions</b>					
<b>Pavement</b>	<b>Use</b>	<b>Accepted Speed (max)</b>	<b>Post/Pin Spacing (m)</b>	<b>Post/Pin Type</b>	<b>Pavement Construction</b>
Concrete	Not Permitted				
Deep lift asphaltic concrete	Not Permitted				
Asphaltic concrete over granular pavement	Permitted	100 km/h	58	M30 x 365mm drop in pin, flat top pin	150mm asphalt concrete over granular subbase
Flush seal over granular pavement	Not Permitted				
Unsealed compacted formation	Not Permitted				

**Note: Installation in pavement conditions not listed above have not been justified to the Panel's satisfaction.**